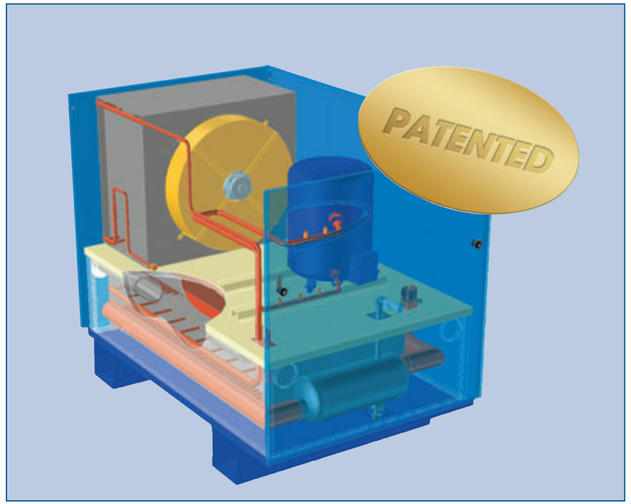
# dryers




Annual Energysaving of **55%** annual cost reduction of 1123 €

## Annual energy saving ensured by patented thermal mass technology

| | Refrigeration dryer with hot gas bypass control | Patented refrigeration dryer ultra.dry |
|---|---|---|
| Flow rate in m³/h | 1300 | 1300 |
| Pressure dewpoint | 3-4°C | 3°C |
| Energy comsumption per year in kWh | 21777 | 9300 |
| **Energy cost per year in €** | **1960** | **837** |

This energy saving example is base on:
Industrial production with two shifts, a five day week (4000 operating hours a year) and a electricity price of 9 Eurocent per kWh.



## The cost saving effect of the patented ultra.dry refrigeration dryer

■ During pauses in operation, at times of low demands and downtime, ultra.dry refrigeration dryers save energy. The control system operates without preset run-on periods. The integrated thermal mass ensures that the system is ready for operation at all times. A further advantage of ultra.dry refrigeration dryers is the very low pressure drop.

■ Compared to a dryer with hot gas bypass control, for example, in single shift operation an ultra.dry refrigeration dryer ensures a saving of from 380 € to 4700 € a year due to the on-off regulation of the compressor.

ULTRAFILTER
THE FILTRATION MANUFACTUREF

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Your compressed air specialist:

# Patented refrigeration dryer ultra.dry


ULTRAFILTER
THE FILTRATION MANUFACTURER

# ultra.dry: the innovative energy saving dryers

## Why compressed air drying?

Compressed air is an indispensable energy for propulsion and processing in many areas of industrial and technical manufacturing. Compressed air must be dry, free of oil and clean, in order to avoid costly break downs in production. Compressed air is produced by making air denser, that is to say a compressor sucks ambient air in. This air usually contains harmful substances, particles, hydro-carbons and also humidity in the form of water vapour. If not purified and dryed the compressed air can then lead to operating disturbances and thus to considerable but avoidable costs.

## The patented ultra.dry energy saving refrigeration dryer

The ultra.dry energy saving patented thermal-mass dryers work differently from all other refrigeration dryers. This means that the refrigeration dryer only consumes power when necessary and thus reduces energy requirement by up to 80% under normal operating conditions.

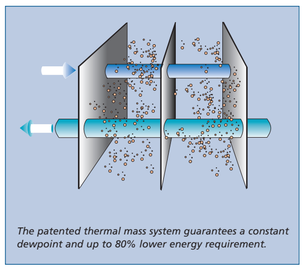

## Low differential pressure guarantees additional energy savings

The air/air and refrigerant/air heat exchangers are fitted with large diameter copper tubes, the smooth inner walls of the tubes are effective in preventing dirt deposits, resulting in a low differential pressure of the ultra.dry refrigeration dryer. Guaranteed for years.

## The heat transfer with the innovative advantage

A specially constructed heat exchanger is embedded in a thermal mass system, which enables heat to transfer directly via the common cooling fins (ribs) of the heat exchanger to the thermal mass.

This guarantees minimal energy requirement and dewpoint reliability.



*The patented thermal mass system guarantees a constant dewpoint and up to 80% lower energy requirement.*

## Quality products with 5 years functional guarantee

In order to produce ultra.dry refrigeration dryers, only the best components that meet the high quality standards of production. The Quality Assurance system according to ISO 9001 means that all appliances receive the “Quality Product” certificate. In combination with the maintenance-friendly and user-friendly method of construction, this guarantees absolute reliability and security of operation, guaranteed by the five-year operating guarantee.

## Highly efficient stainless steel condensate separator

A deflector plate forces the condensed air to rotate into the condensate separator. The air then flows through a stainless steel wire mesh, which guarantees a very high degree of water separation with an efficiency of 99,9%.

## Safe and energy saving condensate drainage

The reliable ultra.drain condensate drain is fitted with an intelligent level control that prevents compressed air loss, when discharging condensate.

## ultra.control: the intelligent microprocessor dryer control

The innovative ultra.control technology is based on the most modern microprocessor electronics. All necessary parameters such as cooling temperature, refrigerant circulation pressure or ambient temperature are regulated. The current operating state of the dryer is continually calculated and controlled/monitored. Thus, regardless of changing parameters a constant pressure dewpoint and absolute security of operation are ensured.

## ultra.dry – the energy saving dryer with the decisive benefits

- Energy saving: the refrigeration dryer compressor starts only when necessary and thus reduces the energy requirement by up to 80%
- Very reliable refrigeration system, as simple as a household refrigerator
- High dewpoint consistency, especially during rapid load changes
- No warm-up times necessary before start-up of compressed air dryer
- The dryer can also remain switched on during longer periods of inactivity
- Constant performance data without readjustment of a hot gas bypass valve
- Reduced number of welded joints means lower risk of leakage

## Technical information ultra.dry

| Model UD | Inlet flowrate 7 bar g. | Effective power consumption | Power supply | Connection | Dimensions (4) | | | | | | | Wg. (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m³/h | kW | V/ph/Hz | | A | B | C | D | E | F | G | kg |
| UD 0017 | 17 | 0.15 | 230/1/50 | ½" | 530 | 300 | 510 | 104 | 60 | 165 | 41 | 35 |
| UD 0025 | 25 | 0.17 | 230/1/50 | ½" | 530 | 300 | 510 | 104 | 60 | 165 | 41 | 36 |
| UD 0035 | 35 | 0.21 | 230/1/50 | ½" | 530 | 300 | 510 | 67 | 50 | 175 | 41 | 35 |
| UD 0054 | 54 | 0.18 | 230/1/50 | ½" | 530 | 300 | 510 | 67 | 400 | 225 | 41 | 39 |
| UD 0075 | 75 | 0.29 | 230/1/50 | ½" | 530 | 300 | 510 | 67 | 400 | 225 | 41 | 41 |
| UD 0110 | 110 | 0.39 | 230/1/50 | ¾" | 650 | 370 | 750 | 100 | 476 | 360 | 41 | 65 |
| UD 0150 | 150 | 0.53 | 230/1/50 | ¾" | 650 | 370 | 750 | 100 | 476 | 360 | 41 | 67 |
| UD 0190 | 190 | 0.55 | 230/1/50 | 1" | 650 | 370 | 750 | 100 | 476 | 360 | 41 | 80 |
| UD 0230 | 230 | 0.74 | 230/1/50 | 1" | 650 | 370 | 750 | 100 | 476 | 360 | 41 | 80 |
| UD 0300 | 300 | 0.82 | 230/1/50 | 1" | 780 | 370 | 850 | 213 | 498 | 360 | 41 | 103 |
| UD 0375 | 375 | 0.84 | 230/1/50 | 1 ½" | 780 | 735 | 940 | 84 | 608 | 447 | 51 | 167 |
| UD 0480 | 480 | 1.10 | 230/1/50 | 1 ½" | 780 | 735 | 940 | 84 | 608 | 447 | 51 | 189 |
| UD 0600 | 600 | 1.53 | 400/3/50 | 2" | 865 | 1017 | 1100 | 102 | 656 | 445 | 51 | 260 |
| UD 0750 | 758 | 1.85 | 400/3/50 | 2" | 865 | 1017 | 1100 | 102 | 656 | 445 | 51 | 264 |
| UD 0850 | 850 | 2.22 | 400/3/50 | 2" | 865 | 1017 | 1100 | 102 | 656 | 445 | 51 | 293 |
| UD 1020 | 1020 | 2.37 | 400/3/50 | 2 ½" | 865 | 1317 | 1100 | 102 | 656 | 445 | 51 | 378 |
| UD 1175 | 1175 | 3.16 | 400/3/50 | 2 ½" | 865 | 1317 | 1100 | 102 | 656 | 445 | 51 | 393 |
| UD 1350 | 1350 | 3.55 | 400/3/50 | DN80 | 962 | 1550 | 1567 | 153 | 656 | 1100 | 103 | 650 |
| UD 1650 | 1650 | 4.57 | 400/3/50 | DN80 | 962 | 1550 | 1567 | 153 | 656 | 1100 | 103 | 770 |
| UD 2250 | 2250 | 6.11 | 400/3/50 | DN100 | 962 | 1900 | 1567 | 153 | 656 | 1100 | 137 | 930 |

In accordance with ISO 7183, based on 1 bar (g) at 20°C and operating pressure 7 bar(g), compressed air inlet temperature 35°C, Ambient temperature 25°C and pressure dewpoint 3°C Refrigerant R134a

Operating Parameters: Maximum operating pressure 16 bar(g), maximum ambient-temperature 50°C, maximum inlet temperature 70°C.

Correction factors: Tabe Flow rate = Flow rate (7bar) x K1 x K2 x K3 x K4.

| Operating pressure | bar | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | K1 | 0.71 | 0.82 | 0.90 | 0.96 | 1,00 | 1,04 | 1,07 | 1,09 | 1,11 | 1,13 | 1,15 | 1,16 | 1,18 | 1,19 |

| Pressure dewpoint | °C | 3 | 5 | 7 | 9 |
|---|---|---|---|---|---|
| | K2 | 1.00 | 1.12 | 1.24 | 1.38 |

| Ambient temperature | °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|---|
| | K3 | 1.05 | 1.00 | 0.95 | 0.89 | 0.84 | 0.78 | 0.72 |

| Inlet temperature | °C | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 |
|---|---|---|---|---|---|---|---|---|---|---|
| | K4 | 1.23 | 1.00 | 0.81 | 0.66 | 0.57 | 0.52 | 0.48 | 0.44 | 0.40 |